

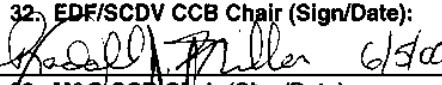



ECS Configuration Change Request

Page 1 of 2 Page(s)

1. Originator Evan Winston	2. Log Date: 5 JUN 00	3. CCR #: 00-0604	4. Rev: —	5. Tel: 301.925.0348	6. Rm #: 2013	7. Dept: DEV/CO
8. CCR Title: Test Executable 5A.06 Faun Testarossa.02 for Delivery to DAACs and VATC. .02 adds DataBase Consistency Check changes; and the .01 provided ScienceDataServer Database changes for Transition to 5B.						
9. Originator Signature/Date  6/5/2000			10. Class II	11. Type: CCR	12. Need Date: 5 June 2000	
13. Office Manager Signature/Date  6/5/2000			14. Category of Change: Update ECS Baseline Doc.		15. Priority: (If "Emergency" fill in Block 28). Emergency	
16. Documentation/Drawings Impacted: N/A			17. Schedule Impact: N/A	18. CI(s) Affected: DSS		
19. Release Affected by this Change: 5A		20. Date due to Customer:		21. Estimated Cost: None - Under 100K		
22. Source Reference: <input checked="" type="checkbox"/> NCR (attach) <input type="checkbox"/> Action Item <input type="checkbox"/> Tech Ref. <input type="checkbox"/> GSFC <input type="checkbox"/> Other: ECSed24104, 26171, 25746, and 26395. ECSed26706 is added by Testarossa.02 for dbcc.						
23. Problem: (use additional Sheets if necessary) Testarossa.02 adds changes for the database consistency check (dbcc) and corrects the NCRs identified by Testarossa.01. Testarossa.02 obsoletes Testarossa.01. Database changes are required to support the transition from 5A to 5B operations. These changes MUST be applied before transition to 5B. The changes should be applied immediately after upgrade to Sybase Adaptive Server 11.5.1.						
24. Proposed Solution: (use additional sheets if necessary) Changes to the 5A baseline have been made to allow transition of the Science Data Server to 5B and for the database consistency check (dbcc). Apply the files and DB patches provided within to allow for this transition to take place. Refer to the next page for identification of the file names and installation instructions. CM provide tar file to SMC. SMC provide access to the file(s) to the DAACs and VATC.						
25. Alternate Solution: (use additional sheets if necessary) Re-population of the data base.						
26. Consequences if Change(s) are not approved: (use additional sheets if necessary) Possible outage at the DAACs						
27. Justification for Emergency (if Block 15 is "Emergency"): Should be provided as soon as possible to prepare DAACs for the Transition.						
28. Site(s) Affected: <input type="checkbox"/> EDF <input type="checkbox"/> PVC <input checked="" type="checkbox"/> VATC <input checked="" type="checkbox"/> EDC <input checked="" type="checkbox"/> GSFC <input checked="" type="checkbox"/> LaRC <input checked="" type="checkbox"/> NSIDC <input checked="" type="checkbox"/> SMC <input type="checkbox"/> AK <input type="checkbox"/> JPL <input type="checkbox"/> EOC <input type="checkbox"/> IDG Test Cell <input type="checkbox"/> Other						
29. Board Comments:			30. Work Assigned To:		31. CCR Closed Date:	
32. EDF/SCDV CCB Chair (Sign/Date):  6/5/00			Disposition: <u>Approved</u> App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS			
33. M&O CCB Chair (Sign/Date):  6-5-00			Disposition: <u>Approved</u> App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS			
34. ECS CCB Chair (Sign/Date):			Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS			

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ECS/EDF/SCDV/M&O

06-05-00P04:21 0400

ADDITIONAL SHEET

CCR #: 00-0604 Rev: ~ Originator: Evan Winston

Telephone: 301.925.0348 Office: DEV/CO

Title of Change: Test Executable 5A.06 Faun Testarossa.02 for Delivery to DAACs and VATC. .02 adds DataBase Consistency Check changes; and the .01 provided ScienceDataServer Database changes for Transition to 5B.

CM: PLEASE, build Sun TAR file(s) for the listed files from current 5A baseline and provide to the SMC.

ecs/formal/DSS/sdsrv/Sybase/db/tools/DsDbCleanOrientedPolygons
ecs/formal/DSS/sdsrv/Sybase/db/tools/Format_OrientedPolygon
ecs/formal/DSS/sdsrv/patches/DsDbPatch5633.sql
ecs/formal/DSS/sdsrv/patches/DsDbPatch5634.ksh
ecs/formal/DSS/sdsrv/patches/DsDbPatch5634.sql
ecs/formal/DSS/sdsrv/patches/DsDbPatch5636.ksh
ecs/formal/DSS/sdsrv/patches/DsDbPatch5636.sql
ecs/formal/DSS/sdsrv/patches/DsDbPatch5638.ksh
ecs/formal/DSS/sdsrv/patches/DsDbPatch5638.sql
ecs/formal/DSS/sdsrv/patches/DsDbPatch5638migr.sql
ecs/formal/DSS/sdsrv/patches/DsDbPatch5638procs.sql
ecs/formal/DSS/sdsrv/patches/DsDbCleanGranules
ecs/formal/DSS/sdsrv/patches/DsDbCleanSingleGranules
ecs/formal/DSS/sdsrv/patches/DsDbCleanCollections
ecs/formal/DSS/sdsrv/scripts/EcDsCheckArchive
ecs/formal/DSS/sdsrv/scripts/EcDsCheckArchive.README

For Testarossa.02, build an additional TAR file or add existing TAR file (from Testarossa.01):

/ecs/formal/COMMON/DDM/EcCoDbSyb_DumpDb
/ecs/formal/COMMON/DDM/EcCoDbSyb_SedFile

SMC: Receive the TAR file(s) and make available to the DAACs.

DAAC Install Instructions:

Database changes are required to support the transition from 5A to 5B operations. These changes MUST be applied before transition to 5B. It is recommended that these changes SHOULD be applied immediately after upgrade to Sybase Adaptive Server 11.5.1.

Note:

- a. These changes have been tested at Landover with Sybase Adaptive Server 11.5.1 using LaRC and EDC databases.
- b. That implementation of these changes on Sybase Adaptive Server 11.3 has not been tested

1. Get File from SMC distribution;
Use the 'cp' from the command line to install/replace files.

2. REPLACE all occurrences of the files included with this TE mode-by-mode, using the same permissions levels and ownerships as previous file. If the files did not exist prior to this installation, copy the files into the corresponding directories, using the permissions and ownerships as other files in the directories.

INSTRUCTION FOR TEST EXECUTABLES TO 5A

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• Instruction for installing the DsDbCleanOrientedPolygon scripts. This script will pull the existing polygons into a flat file, drop the table, which will get rid of the orphan polygons, recreate the table and bcp the data back in to the DsMdGrGPolygon table. It needs to install and run on the machine, which the sybase SQL Server run.

1. Copy the following scripts to /usr/ecs/<MODE>/CUSTOM/dbms/DSS
DsDbCleanOrientedPolygons
Format_OrientedPolygon

2. Execute the DsDbCleanOrientedPolygons script, which expects the following parameters:

Enter MODE : <MODE>

Enter database name: EcDsScienceDataServerX_MODE

Enter Sybase User Name: sdsrv_role

Enter Sybase password: <DBO password>

Enter UserName sa: sa

Enter sa password : < SA password>

Enter SQS Server: SQS Server Name

Enter Sybase Server: SQL Server Name (Note: This should be SQL Server only not SQS server)

Enter absolute path for sqsbcp executable. For example:

/usr/ecs/MODE/COTS/sqsxxx/sqs/bin/

(Note: Pick the correct SQS Server Version Path)

Enter group name of users to be granted privileges : sdsrv

Verify the log files /usr/ecs/<MODE>/CUSTOM/logs/DsDbOrientedPolygon.log

/usr/ecs/<MODE>/CUSTOM/dbms/DSS/DBoutfile_SQSBcpOPolygonError.log

NOTE: DsDbCleanOrientedPolygons script requires SA user and SA password and should be executed from sdsrv SGI machine (i.e., machine where SYBASE SQL SERVER resides). This script takes about 30 minutes to run with about 200,000 rows in the DsMdGrGPolygon table.

• The following is instruction for database patches that need install in the machine, which EcDsScienceDataServer run on.

1. Copy the following files to /usr/ecs/<MODE>/CUSTOM/dbms/DSS

DsDbPatch5633.sql

DsDbPatch5634.ksh

DsDbPatch5634.sql

DsDbPatch5636.ksh

DsDbPatch5636.sql

DsDbPatch5638.ksh

DsDbPatch5638.sql

DsDbPatch5638migr.sql

DsDbPatch5638procs.sql

DsDbCleanGranules

DsDbCleanSingleGranules

DsDbCleanCollections

2. Backup the database before applying the patches.

3. Check the current version of the database.

```
SELECT * from EcDbDatabaseVersions
WHERE EcDbCurrentVersionFlag = 'Y'
```

If this SQL statement returns a row with EcDbSchemaVersionId equal to 5633, then continue with the following step 4. Otherwise, patch the database to version 5633 first.

4. Apply the database patch through ECS Assistant by running DbPatch with patch number 5.6.38.

NOTE: The patch 5.6.34 takes about 10 minutes to run with about 800,000 rows in the DsMdInputGranule table.

The patch 5.6.36 takes about 10 minutes to run with about 200,000 rows in the DsMdGranules table.

The patch 5.6.38 takes about 30 minutes to run with about 500,000 rows in the DsMdFileStorage table.

• Instruction for installing the EcDsCheckArchive script

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1. Install the EcDsCheckArchive script to the machine, where the archive servers are located.

• Instruction for installing the EcCoDbSyb_DumpDb and EcCoDbSyb_SedFile scripts. The following must be done to set up the database consistency check (dbcc) after installing the two scripts as perscribed above:

dbcc Installation instructions for Adaptive Server 11.5.1 upgrade.

Setting up dbcc to check consistency of databases and tables.

The dbcc checkstorage command will be used to perform the following checks: Allocation of text valued columns, page allocation and consistency, OAM page entries, Pointer consistency and text valued columns and text column chains. The dbcc checkstorage combines many of the checks provided by the other dbcc commands, but it does not lock tables or pages for extended periods, which allows dbcc to locate errors accurately while allowing concurrent update activity. The dbcc checkstorage activity and results are stored in the dbccdb database, which allows trend analysis and provides a source of accurate diagnostic information.

PRECONDITIONS:

Before using the dbcc checkstorage command the Adaptive server must be configured and the dbccdb database set up. The following sections will step through this set up.

dbccdb setup configuration parameters

Parameters	Parameter Values
logical data device name (recommended name)	dbccdb_data
logical log device name (recommended name)	dbccdb_log
physical data device name (recommend using raw device)	set by DBA
physical log device name (recommend using raw device)	set by DBA
virtual device number	set by DBA
number of blocks	set by DBA
data size	set by DBA
log size	set by DBA
scan workspace of largest database - add K for Kilobytes	set by DBA
text workspace of largest database - add K for Kilobytes	set by DBA
cache of largest database - add K for Kilobytes	set by DBA
memsize - add K for Kilobytes	set by DBA
process count	set by DBA
database name	set by DBA

___ a) Planning Resources.

The system procedure sp_plan_dbccdb will provide recommendations for the above dbccdb setup configuration parameters. The largest database on the Adaptive Server determines what size the dbccdb database needs to be. In general, making the dbccdb database one percent of the largest database is adequate. Log into the Adaptive Server and execute the procedure sp_plan_dbccdb. If the dbccdb does not exist, this procedure returns the minimum size for dbccdb, devices that are suitable for dbccdb, minimum sizes for the scan and text workspaces, minimum cache size and number of worker processes. NOTE: if all existing database devices are in use, the sp_plan_dbccdb procedure specifies that no suitable device exist. If this message is displayed in the output of step a, then perform step b. Otherwise, proceed to step c. Sybase recommends using dedicated database devices to improve checkstorage performance.

___ b) Allocating disk space for dbccdb. (Reference step a - Planning Resources)

Use disk init to initialize new database devices for the dbccdb data and log. The devices must accommodate the recommended dbccdb data and log sizes in the sp_plan_dbccdb procedure output in step a. Note: The log size should be larger than wants recommended in the plan to prevent the log from filling up during dbcc checkstorage operations.

Execute the following:

```
use master
go
disk init
name = <logical data device name>
physname = <physical data device name>
vdevno = <virtual device number>
size = <number of blocks>
go
disk init
name = <logical log device name>
physname = <physical log device name>
vdevno = <virtual device number>
```

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size = <number of blocks>

go

___ c) Create dbccdb database. (Reference step a – Planning Resources)

Use create database to create dbccdb on the data and log devices. Note: The log size should be larger than wants recommended in the plan to prevent the log from filling up.

Execute the following:

use master

go

create database dbccdb

on <logical data device name> = < data size>

log on <logical log device name> = <log size>

go

___ d) Add segments for scan and text workspaces.

Use sp_addsegment to add scanseg and textseg segments for the scan and text workspaces to the dbccdb data device.

Execute the following:

use dbccdb

go

sp_addsegment scanseg, dbccdb, <logical data device name>

go

sp_addsegment textseg, dbccdb, <logical data device name>

go

___ e) Create tables and install dbcc stored procedures.

Use the script installdbccdb to create the tables for dbccdb, initialize the dbcc_types table, install dbcc stored procedures. At the command line execute the isql command: isql -Usa -Ppassword -Sserver -i \$SYBASE/scripts/installdbccdb -e/tmp/error.out

___ f) Create and initialize the scan and text workspaces. (Reference step a – Planning Resources)

Two workspaces are required for dbccdb. Space requirements for the workspaces depend on the size of the largest database that will be checked. An assumption has been made that dbcc checkstorage operations are run serially, so the workspaces should be based on the largest database. They can be used by all the user databases. Use sp_dbcc_createws to create and initialize the scan and text workspaces: Execute the following:

use dbccdb

go

sp_dbcc_createws dbccdb, scanseg, scan_ws, scan, "<scan workspace of largest database><K>"

go

sp_dbcc_createws dbccdb, textseg, text_ws, text, "<text workspace of largest database><K>"

go

___ g) Setting up a dbcc Named Cache (Reference step a – Planning Resources)

During a dbcc checkstorage operation, the workspaces are temporarily bound to a cache. Using a named cache that is dedicated to dbcc minimizes the impact of the database check on other users and improves performance. The dbcc Named Cache should be sized such that the entire workspace (scan + text) will fit into it. An assumption has been made that the named cache will be used by all the target database and will be 20% of the workspace size(scan + text) of the largest database. To configure Adaptive server with a named cache for dbcc checkstorage operations based on output from sp_plan_dbccdb Execute the following, then reboot the Adaptive Server so that the changes can take affect:

use dbccdb

go

sp_cacheconfig "dbcc_cache", "<cache of largest database><K>"

go

___ h) Configure 16K memory pool for the dbcc Named Cache in step g. (Reference step a –Planning Resources)

dbcc checkstorage operation requires a minimum of 640K of 16K buffers per worker process in the named cache. Multiply 640K times the process count of the largest database to attain the parameter value for memsize.

Execute the following:

use dbccdb

go

sp_poolconfig "dbcc_cache", "<memsize><K>", "16K"

go

___ i) Configuring database-specific attributes in dbccdb. (Reference step a - Planning Resources)

Use sp_dbcc_updateconfig to initialize the dbcc_config table for each target database that will have the dbcc checkstorage operation performed against it. Execute the following:

use dbccdb

go

sp_dbcc_updateconfig <database name>, "max worker processes", "<process count>"

go

sp_dbcc_updateconfig <database name>, "dbcc named cache", "dbcc_cache", "<cache size of largest database><K>"

go

sp_dbcc_updateconfig <database name>, "scan workspace", scan_ws

go

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sp_dbcc_updateconfig <database name>,"text workspace", text_ws
go

POST INSTALLATION:

1. Verify the updates to the DBAdmin scripts EcCoDbSyb_DumpDb and EcCoDbSyb_SedFile have been installed. The EcCoDbSyb_DumpDb script has been modified to execute the dbcc checkstorage function if the SQL_Server has been upgraded to 11.5.1. If not, then it will execute the regular dbcc functions. The EcCoDbSyb_SedFile has been modified to exclude the dbccdb from the list of databases that the dbcc checkstorage will be run against.
2. Update the file EcCoDbSyb_DboMail with the email addresses of the recipients of any dbcc messages.

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